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**Notes:**

1. Untranslatable words are replaced with asterisks (\* \* \*).
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## CLAIM + DETAILED DESCRIPTION

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[Claim(s)]

[Claim 1]A skin medicine for external application containing a tomato pigment as an active ingredient.

[Claim 2]The skin medicine for external application according to claim 1 which is that to which a tomato pigment makes the main ingredients a lycopene complex obtained by centrifuging a tomato treatment object, extracting a fluid portion, carrying out precision filtration of this and extracting a non-penetrating thing.

[Claim 3]The skin medicine for external application according to claim 1 or 2 which is an antiaging cosmetic.

[Claim 4]A skin medicine for external application given [ of the Claims 1-3 containing a kind of medicinal properties chosen from a group which consists of an active oxygen removal agent, an anti-oxidization agent, an antiinflammatory agent, an ultraviolet-rays prevention agent, a cell \*\*\*\* agent, and a moisturizer, or two sorts or more / one ] in a paragraph.

[Claim 5]An active oxygen removal agent Super-oxide dismutase (SOD), Mannitol, carotenoid, astaxanthin, rutin, and its derivative, The skin medicine for external application according to claim 4 which is a kind chosen from a group which consists of bilirubin, cholesterol, tryptophan, histidine, quercetin, KUERUSHITORIN, catechin and its derivative, gallic acid, its derivative, glutathione, and its derivative, or two sorts or more.

[Claim 6]An active oxygen removal agent A Scutellaria root extract, a ginkgo tree extract, the Spatholobus suberectus Dunn extract, A white thorn extract, a mica cuttlefish extract, a creeping saxifrage extract, the Melissa extract, The skin medicine for external application according to claim 4 which is a kind chosen from a group which consists of a Geranium thunbergii Sieb. etZucc. extract, a Moutan bark extract, a parsley extract, a TORUMENCHIRA extract, a rakanka extract, a YASHAJITSU extract, Lycium chinense root extract, a stevia extract, and a Rose Fruit extract, or two sorts or more.

[Claim 7]An anti-oxidization agent Vitamin A and those derivatives, vitamin B, and those derivatives, The skin medicine for external application according to claim 4 which is a kind chosen from a group which consists of vitamin C and those derivatives, vitamin D and those derivatives, vitamin E and those derivatives, dibutylhydroxytoluene, and berylhydroxyanisole, or two sorts or more.

[Claim 8]An antiinflammatory agent Glycyrrhizin acid and its derivative, glycyrrhetic acid, and its derivative, Mefenamic acid and its derivative, phenylbutazone and its

derivative, indomethacin, and its derivative, Ibuprofen and its derivative, ketoprofen and its derivative, Alland Inn, and its derivative, The skin medicine for external application according to claim 4 which is a kind chosen from a group which consists of GUAIAZUREN and its derivative, epsilon-aminocaproic acid, diclofenac sodium, tranexamic acid, and its derivative, or two sorts or more.

[Claim 9] An antiinflammatory agent The Angelica keiskei extract, an Arnica extract, Bistorta major extract, A turmeric extract, a St. John's wort extract, a cork tree bark extract, a camomile extract, A KANZOU extract, a Lonicera-japonica-thunb extract, a watercress extract, a comfrey extract, A GOKAHI extract, a salvia extract, a SHIKON extract, a beefsteak plant extract, a white birch extract, The skin medicine for external application according to claim 4 which is a kind chosen from a group which consists of a CHA extract, the Calendula officinalis extract, an elder extract, a HOOU extract, a Sapindus mukurossi extract, a mugwort extract, a eucalyptus extract, an angericae radix extract, and an Astragalus sinicus extract, or two sorts or more.

[Claim 10] An ultraviolet-rays prevention agent Paraamino benzoic acid (PABA), PABA ethyl, PABA glyceryl, N, and N-JIMECHIRU PABA Amir, N, and N-JIMECHIRU PABA-2-ethylhexyl, Salicylic acid-2-ethylhexyl, salicylic acid ethylene glycol, Salicylic acid gay methyl, 4-methoxycinnamic acid-2-ethylhexyl, 4-methoxycinnamic acid ethoxyethyl, 4-methoxycinnamic acid potassium, 4-5-JISO propyl methyl cinnamate, JIPARA methoxycinnamic acid Monod 2-ethylhexanoic acid glyceryl, 2-hydroxy 4-methoxybenzophenone, 2-hydroxy 4-methoxybenzophenone sulfonic acid, 2-hydroxy 4-methoxybenzophenone sulfone sodium, 2, 2'- dihydroxy 4 and 4'-dimethoxy benzophenone, 2, 2'- dihydroxy 4 and 4'-dimethoxy benzophenone 5-sulfone sodium, 2-4-dihydroxy benzophenone, 2, 2', 4, and 4' - tetra-hydroxy benzophenone and 2 -(2-hydroxy 5-methylphenyl)- benzo-- doria -- ZORU, urocanic acid, and urocanic acid ethyl. The skin medicine for external application according to claim 4 which is a kind chosen from a group which consists of 4-t-butyl 4'-methoxy dibenzo IRUMETAN, titanium oxide, a zinc oxide, iron oxide, cerium oxide, and a zirconium dioxide, or two sorts or more.

[Claim 11] A cell \*\*\*\*\* agent A deoxyribonucleic acid and its derivative, adenosine triphosphate, An adenylic acid derivative chosen from adenosine diphosphoric acid and adenosine 1 phosphoric acid, Ribonucleic acid and its derivative; Cyclic adenylic acid, cyclic GMP, A hula bottle adenine nucleotide, guanine, adenine, cytosine, thymine, Nucleic acid related substance;alpha- and gamma-linolenic acid which are chosen from caffeine which is KISANCHIN and those derivatives, and Theo Phi Lynne, Eicosapentaenoic acid and those derivatives, oestradiol, ethenyl oestradiol; Glycolic acid, Organic acid chosen from citrate, lactic acid, malic acid, tartaric acid, succinic acid, and salicylic acid, and those derivatives; the skin medicine for external application according to claim 4 which is a kind chosen from a group which consists of hinoki thiol and cepharanthin, or two sorts or more.

[Claim 12] A cell \*\*\*\*\* agent A placenta extract, extract from hemolysed blood of young calves, a serum \*\*\*\*\* extract, a spleen extract, An egg ingredient, a crest extract, a shell extract, a shell meat extract, royal jelly, a silk protein, its decomposed materials, and those derivatives, An extract of animal origin chosen from hemoglobin and its decomposed materials, LF and its decomposed materials, and a sepio extract; A yeast extract, An extract of microorganism origin chosen from a lactic-acid-bacteria extract, a

bifidus-bacterium extract, and a fermentation metabolic product; An asparagus extract, A carrot extract, a shiitake mushroom extract, a soybean extract, a sialid extract, A zizyphi fructus extract, a rosemary extract, a garlic extract, a red pepper extract, The skin medicine for external application according to claim 4 which is a kind chosen from a group which consists of a bud extract, an OOMUGI extract, grape seed oil, the U.S. fermentation extract, a lettuce extract, an avocado extract, a Ganoderma extract, and a Cordyceps-sinensis-Berk extract of a beech, or two sorts or more.

[Claim 13]A moisturizer Hyaluronic acid, chondroitin sulfate, dermatan sulfate, heparan sulfate, Mucopolysaccharide chosen from heparin and keratan sulfate, and those derivatives; Collagen, Protein chosen from elastin, fibronectin, and a keratin, those derivatives, and a hydrolysis thing; Grishin, ARANIN, valine, isoleucine, serine, threonine, aspartic acid, Glutamic acid, asparagine, glutamine, lysine, hydroxy lysine, Arginine, cysteine, cystine, methionine, phenylalanine, Tyrosine, proline, hydroxyproline, theanine, ORUCHININ, Amino acid chosen from citrulline and pyrrolidone carboxylic acid, and those derivatives; Sorbitol, Erythritol, malt sugar, maltitol, xylitol, xylose, Trehalose, inositol, glucose, PENTA erythritol, Sugars chosen from fructose, sucrose and its ester, dextrin, and its derivative; the skin medicine for external application according to claim 4 which is a kind chosen from a group which consists of mucin, D-bread tenor and its derivative, urea, phospholipid, a glycolipid, and SERAMIDO, or two sorts or more.

[Claim 14]A moisturizer Honey, a brown sugar extract, an aloe extract, a seaweed extract, a quince extract, The Hamah Melis extract, a sponge gourd extract, a mallow extract, an apple extract, A grapefruit extract, a prune extract, a lime extract, a yuzu citron extract, The Tilia miqueliana extract, a raspberry extract, the Clara extract, a Chinese quince extract, A wheat germ extract, the Artemisia capillaris flos extract, a SHIRAYURI extract, a hop extract, A peppermint extract, a Houttuynia extract, a peony extract, a coix seed extract, A lavender extract, an oats extract, a butcher's broom extract, the Al Thea extract, a Hoelen extract, a nettle extract, and oui -- a KYOU extract. A kiwi extract, a cucumber extract, a grape extract, a cactus extract, the Rehmannia Root extract, A field horsetail extract, a cnidium rhizome extract, Mulberry bark extract, a garden thyme extract, A horse chestnut extract, a peach extract, a rose extract, an apricot extract, a corn extract, A ginger extract, a lemon extract, an orange extract, a strawberry extract, a gentian extract, a common mallow extract, a wild ginger extract, a burdock extract, a HAUCHIMAME extract, an algarroba extract, an ivy extract, a pine extract, a cornflower extract. The skin medicine for external application according to claim 4 which is a kind chosen from a group which consists of a Sanguisorba officinalis extract and an Ononis spinosa extract, or two sorts or more.

[Claim 15]A skin medicine for external application of either of the Claims 1-14 whose content of a tomato pigment is 0.0005 to 5 weight % given in a paragraph.

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#### [Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the skin medicine for external application which can prevent generation of the lipid peroxide within the skin surface and the skin

and the inflammation of skin, melanism, a wrinkle, sagging, etc. and which has outstanding skin antiaging effects, concerning the skin medicine for external application containing a tomato pigment.

[0002]

[Description of the Prior Art] Conventionally, various medicinal properties are added to skin medicines for external application, such as a milky lotion, cream, face toilet, a pack, a charge of washing, foundation, dispersion liquid, and ointment, at these for the purpose of prevention of the senility of the skin, and the improvement of dry rough skin. For example, medicinal properties, such as super-oxide dismutase (SOD), mannitol, Allard Inn, a carrot extract, a cow blood \*\*\*\*\* extract, and a fermentation metabolic product, are blended as medicinal properties with active oxygen removal, anti-inflammation, the object for cell Chinese poem whole and raw fish with its meat cut in slices, etc.

[0003]

[Problem to be solved by the invention] However, in the skin medicine for external application which blended the above-mentioned medicinal properties, the effect of medicinal properties is not enough, or it deteriorates in a tablet, the expected effect of a medicine is not obtained in many cases, and the improvement was desired.

[0004]

[Means for solving problem] In order to solve these problems, as a result of inquiring wholeheartedly, this invention persons found out that the effect that a tomato pigment prevents senility, such as generation of the lipid peroxide within the skin surface and the skin and inflammation of skin, melanism, a wrinkle, and sagging, was excellent, and completed this invention.

[0005] That is, a skin medicine for external application, wherein this invention contains a tomato pigment as an active ingredient is provided.

[0006]

[Mode for carrying out the invention] Although the tomato pigment used for this invention is obtained from the fruits of a tomato [rye KOPERUSHIKAMU S KARENTAMU:Lycopersicum esculentum] (department of an eggplant) etc., neither a kind nor an origin in particular is limited.

[0007] Although not limited especially as the method of preparation of a tomato pigment, [ as a suitable method ] For example, as it is, after [ a certain ] carrying out \*\* proper adding water and considering it as aqueous suspension, centrifugal separation is carried out for the treatment object of the flesh of a tomato shown in JP.H9-183914,A, a fluid portion is extracted, and the method of carrying out precision filtration of this and obtaining the tomato pigment which is a non-penetrating thing is mentioned.

[0008] That is, crush, grinding down by friction, etc. carry out tomato flesh by a usual state method first, a strainer etc. are performed if needed, the peel, a seed, etc. are removed, a tomato treatment object is obtained, or this is condensed further if needed and a tomato processing concentrate is obtained. As for a tomato treating solution, it is preferred for a tomato processing concentrate to add the water of about 2 to 5-time capacity preferably about 1.5 to 7 times suitably, and to prepare aqueous suspension as it is. By considering it as aqueous suspension, a tasteless odorless tomato pigment is obtained by a lot of washing effects of water, and the recovery rate of a lycopene complex can be raised.

[0009] [ the aqueous suspension of the obtained tomato treating solution or a tomato

processing concentrate ] Physical detailed processing and/or PEKUTO lyase, PEKUCHINAZE, cellulase, It processes by a usual state method using plant tissue collapse enzyme, such as hemicellulase, plotty ase, amylase, and lipase, and in a cell, most or since [ if it destroys completely, ] the lycopene complex in a tomato pigment will become high concentration, it is desirable.

[0010]Subsequently, a tomato treating solution or the above-mentioned aqueous suspension is divided into paste-like solid content and the fluid portion which contains a tomato pigment in high concentration by centrifugal separation. Although the conditions of centrifugal separation can be chosen suitably, it is preferred to consider it as the high-speed centrifugal separation more than for 10 minutes by more than 3000G generally.

[0011]Since impurities of materials origin, such as polysaccharide, protein, sugar, and acid, are also contained, precision filtration processing is performed into the obtained fluid portion, and a tomato pigment and the impurity concerned are divided into it. If an about 0.1-10-micrometer particle is separable, the precision filtration can adopt the thing of any methods and can use a commercial precision filtration membrane suitably. Although the operation conditions of precision filtration can be set up suitably, generally, the pressure of filtration has a preferred 0.1 - 8.0 kg/cm<sup>2</sup> grade, and about 10-80 \*\* of temperature is preferred. As for this tomato pigment, although a tomato pigment is obtained by extracting the non-transparent part divided by precision filtration, it is preferred to heat-sterilize on suitable conditions if needed.

[0012]Thus, an obtained tomato pigment makes the main ingredients a lycopene complex with an average particle diameter of about 0.2-10 micrometers. Lycopene is a kind of a hydrophobic hydrocarbon system carotenoid compound without a polar group, contain it to animals and plants, especially a tomato mostly, and, [ a lycopene complex ]

Hydrophobic binding of tomato lycopene is destroyed and an amphiphilic polymer of protein of tomato origin or polysaccharide and also a film structure join there together. This lycopene complex shows solubility and suspension nature which were very excellent to a water fluid, and since it is tasteless no odor, it has character very desirable as a base of a skin medicine for external application. Therefore, of course in this invention, not a tomato pigment but a lycopene complex which is the main ingredients may be used as an active ingredient. Even in this case, a method of carrying out separation manufacture of the lycopene complex by using a tomato as materials is preferred in respect of \*\*\*\*.

[0013]Content of a tomato pigment in a skin medicine for external application of this invention is 0.0005 to 5 weight % ("%" only shows below) preferably, and is 0.001 to 2% more preferably. If it is this within the limits, a tomato pigment can be blended stably. If content of a dry solid which is \*\*\*\* is in a mentioned range when using extraction liquid containing a tomato pigment, the extraction liquid concentration will not be limited at all.

[0014]Although the use as natural color, such as a lipstick, was known as application to the cosmetics of a tomato pigment (refer to JP,H9-183914,A), the skin medicine for external application which blended the tomato pigment for the other use was not known until now. It will not be found out without this invention persons that antiaging effects exist in a tomato pigment.

[0015]When it combines with a tomato pigment, on the other hand, [ as a desirable mode of the skin medicine for external application of this invention ] The skin medicine for external application which blended kinds, such as the medicinal properties which can expect high skin antiaging effects, for example, an active oxygen removal agent, an anti-

oxidization agent, an antiinflammatory agent, an ultraviolet-rays prevention agent, a cell \*\*\*\* agent, and a moisturizer, or two sorts or more can be mentioned. What is shown below, respectively is mentioned as an example of suitable medicinal properties. The salt which can be formed is contained in a "derivative" in various medicinal properties illustrated below.

[0016](Active oxygen removal agent), [ as an active oxygen removal agent ] For example, carotenoid, such as SOD, mannitol, and B-carotene, Astaxanthin, rutin and its derivative, bilirubin, cholesterol, Tryptophan, histidine, quercetin, KUERUSHITORIN, catechin, and its derivative, Gallic acid and its derivative, glutathione and its derivative, a Scutellaria root extract, A ginkgo tree extract, the Spatholobus suberectus Dunn extract, a white thorn extract, a mica cuttlefish extract, A creeping saxifrage extract, the Melissa extract, a Geranium thunbergii Sieb. etZucc. extract, a Moutan bark extract, a parsley extract, a TORUMENCHIRA extract, a rakanka extract, a YASHAJITSU extract, Lycium chinense root extract, the Rose Fruit extract, a stevia extract, etc. are mentioned. These active oxygen removal agents can be used combining its kind or two sorts or more. [0017]Mannitol, B-carotene, astaxanthin, rutin and its derivative, a Scutellaria root extract, a ginkgo tree extract, the Spatholobus suberectus Dunn extract, a creeping saxifrage extract, the Melissa extract, and a Geranium thunbergii Sieb. etZucc. extract are especially illustrated as a desirable thing among the above-mentioned active oxygen removal agents.

[0018](Anti-oxidization agent) As an anti-oxidization agent, again, for example Pulmitic acid retinol, Retinol and its derivative, RECHINARU, and its derivatives, such as retinol acetate, Vitamin A, such as a DEHIDORORECHI knurl; Thiamin and its derivative, riboflavin, Pyridoxine, such as acetic acid riboflavin, pyridoxine hydrochloride, and pyridoxine dioctanoate, A hula bottle adenine nucleotide, cyanocobalamin, folic acid, nicotinic acid amide, Vitamin B;L-ascorbic acid, such as nicotinic acid, such as nicotinic acid Ben Jill, and Colin, Pulmitic acid L-ASUKORUBIRU, dipalmitate L-ASUKORUBIRU, Tetra-iso pulmitic acid L-ASUKORUBIRU, L-ascorbic acid phosphoric acid ester sodium, Vitamin C, such as L-ascorbic acid phosphoric ester magnesium and L-ascorbic acid sulfuric acid ester sodium; Ergocalciferol, Vitamin D, such as cholecalciferol; Dl-alpha (beta, gamma)-tocopherol, Vitamin E, such as acetic acid-dl-alpha-tocopherol, nicotinic acid-dl-alpha-tocopherol, and linoleic acid-dl-alpha-tocopherol; dibutylhydroxytoluene, burylhydroxyanisole, etc. are mentioned. These anti-oxidation agents can be used combining its kind or two sorts or more.

[0019]Vitamin C and the derivative of those, vitamin E and the derivative of those, and dibutylhydroxytoluene are especially illustrated as a desirable thing among the above-mentioned anti-oxidization agents.

[0020](Antiinflammatory agent) As an antiinflammatory agent, for example Dipotassium glycyrrhizinate, Glycyrrhizin acid mono-ammonium, beta-glycyrrhetic acid, glycyrrhetic acid stearyl, Glycyrrhizin acid or glycyrrhetic acid, and those derivatives, such as 3-succinyl OKISHI glycyrrhetic acid disodium, Mefenamic acid and its derivative, phenylbutazone and its derivative, indomethacin, and its derivative, Ibuprofen and its derivative, ketoprofen and its derivative, Alland Inn, and its derivative, GUAIAZUREN and its derivative, epsilon-aminocaproic acid, diclofenac sodium, Tranexamic acid and its derivative, the Angelica keiskei extract, an Arnica extract, Bistorta major extract, a turmeric extract, a St. John's wort extract, a cork tree bark

extract, A camomile extract, a KANZOU extract, a Lonicera-japonica-thunb extract, a watercress extract, A comfrey extract, a GOKAHI extract, a salvia extract, a SHIKON extract, a beefsteak plant extract, a white birch extract, a CHA extract, the Calendula officinalis extract, an elder extract, a HOOU extract, a Sapindus mukurossi extract, a mugwort extract, a eucalyptus extract, an angeriae radix extract, the Astragalus sinicus extract, etc. are mentioned. These antiinflammatory agents can be used combining its kind or two sorts or more.

[0021]Among the above-mentioned antiinflammatory agents, as a desirable thing especially Glycyrrhizin acid and its derivative, Glycyrrhetic acid and its derivative, GUAIAZUREN and its derivative, an Arnica extract, a cork tree bark extract, a camomile extract, a comfrey extract, a SHIKON extract, a beefsteak plant extract, a white birch extract, and a CHA extract are illustrated.

[0022](Ultraviolet-rays prevention agent) As an ultraviolet-rays prevention agent, for example Paraamino benzoic acid (PABA), PABA ethyl, PABA glyceryl, N, and N-JIMECHIRU PABA Amir, N and N-JIMECHIRU PABA-2-ethylhexyl, salicylic acid-2-ethylhexyl, Salicylic acid ethylene glycol, salicylic acid gay menthyl, 4-methoxycinnamic acid-2-ethylhexyl, 4-methoxycinnamic acid ethoxyethyl, 4-methoxycinnamic acid potassium, 4-5-JISO propyl methyl cinnamate, JIPARA methoxycinnamic acid Monod 2-ethylhexanoic acid glycercyl, 2-hydroxy 4-methoxybenzophenone, 2-hydroxy 4-methoxybenzophenone sulfonic acid, 2-hydroxy 4-methoxybenzophenone sulfone sodium, 2, 2' - dihydroxy 4 and 4'-dimethoxy benzophenone, 2, 2' - dihydroxy 4 and 4'-dimethoxy benzophenone 5-sulfone sodium, 2-4-dihydroxy benzophenone, 2, 2', 4, and 4' - tetra-hydroxy benzophenone and 2 -(2-hydroxy 5-methylphenyl)- benzo-- doria -- ZORU, urocanic acid, and urocanic acid ethyl. 4-t-butyl 4'-methoxy dibenzo IRUMETAN, titanium oxide, a zinc oxide, iron oxide, cerium oxide, a zirconium dioxide, etc. are mentioned. These ultraviolet-rays prevention agents can be used combining its kind or two sorts or more.

[0023]Among the above-mentioned ultraviolet-rays prevention agents, as a desirable thing especially Salicylic acid gay menthyl, 4-methoxycinnamic acid-2-ethylhexyl, 2-hydroxy 4-methoxybenzophenone, 2-hydroxy 4-methoxybenzophenone sulfonic acid, 2-hydroxy 4-methoxybenzophenone sulfone sodium, 4-t-butyl 4'-methoxy dibenzo IRUMETAN, titanium oxide, a zinc oxide, and cerium oxide are illustrated.

[0024](Cell \*\*\*\* agent) As a cell \*\*\*\* agent, for example A deoxyribonucleic acid and its derivative, Adenylic acid derivatives, such as adenosine triphosphate, adenosine diphosphoric acid, and adenosine 1 phosphoric acid, Ribonucleic acid and its derivative; Cyclic adenylic acid, cyclic GMP, A hula bottle adenine nucleotide, guanine, adenine, cytosine, thymine, Nucleic acid related substances which are KISANCHIN and those derivatives, such as caffeine and Theo Phi Lynne; A pig, Placenta extracts, such as a cow, extract from hemolysed blood of young calves, a serum \*\*\*\*\* extract, a spleen extract, Egg ingredients, such as a bird, a crest extract, a shell extract, a shell meat extract, royal jelly, A silk protein, its decomposed materials and those derivatives, hemoglobin, and its decomposed materials, The extract of the animal origin of LF and its decomposed materials, a sepiia extract, etc.; A yeast extract, Extract;alpha- and gamma-linolenic acid of the microorganism origin of a lactic-acid-bacteria extract, a bifidus-bacterium extract, a fermentation metabolic product, etc., Organic acid and those derivatives, such as eicosapentaenoic acid and those derivatives, oestradiol, ethenyl oestradiol; glycolic acid,

citrate, lactic acid, malic acid, tartaric acid, succinic acid, and salicylic acid; An asparagus extract, a carrot extract, a shiitake mushroom extract, A soybean extract, a sialid extract, a zizyphi fructus extract, a rosemary extract, The extract of the vegetable origin of a garlic extract, a red pepper extract, the bud extract of a beech, an OOMUGI extract, hinoki thiol, cepharanthin, grape seed oil, the U.S. fermentation extract, a lettuce extract, an avocado extract, a Ganoderma extract, a Cordyceps-sinensis-Berk extract, etc., etc. are mentioned. These cell \*\*\*\* agents can be used combining its kind or two sorts or more.

[0025] Among the above-mentioned cell \*\*\*\* agents, as a desirable thing especially Adenosine triphosphate, Adenylic acid derivatives, such as adenosine diphosphoric acid and adenosine 1 phosphoric acid, caffeine, A placenta extract, a blood \*\*\*\*\* extract, royal jelly, a shell extract, a shell meat extract, LF and its decomposed materials, a yeast extract, a lactic-acid-bacteria extract, a bifidus-bacterium extract, alpha- and gamma-linolenic acid, eicosapentaenoic acid and those derivatives, oestradiol, ethenyl oestradiol, glycolic acid, lactic acid, malic acid, salicylic acid and those derivatives, an OOMUGI extract, a rosemary extract, and a carrot extract are illustrated.

[0026] (Moisturizer) As a moisturizer, mucopolysaccharide, protein, sugars, amino acid, sugars, a botanical extract, etc. which are used for the skin medicine for external application from the former are mentioned.

[0027] As an example of a moisturizer, hyaluronic acid, chondroitin sulfate, dermatan sulfate, Mucopolysaccharide and those derivatives, such as heparan sulfate, heparin, and keratan sulfate; Collagen, Protein, those derivatives, and hydrolysis things, such as elastin, fibronectin, and a keratin; Grishin, ARANIN, valine, isoleucine, serine, threonine, aspartic acid, Glutamic acid, asparagine, glutamine, lysine, hydroxy lysine, Arginine, cystein, cystine, methionine, phenylalanine, Tyrosine, proline, hydroxyproline, theanine, ORUCHININ, Amino acid and those derivatives, such as citrulline and pyrrolidone carboxylic acid; Sorbitol, Erythritol, malt sugar, maltitol, xylitol, xylose, Trehalose, inositol, glucose, PENTA erythritol, Fructose, sucrose and its ester, dextrin and its derivative, honey, Sugars, such as a brown sugar extract; Mucin, D-bread tenor and its derivative, urea, phospholipid, a glycolipid, SERAMIDO, an aloe extract, a seaweed extract, a quince extract, the Hamah Melis extract, a sponge gourd extract, a mallow extract, an apple extract, A grapefruit extract, a prune extract, a lime extract, a yuzu citron extract, The Tilia miqueliana extract, a raspberry extract, the Clara extract, a Chinese quince extract, A wheat germ extract, the Artemisia capillaris flos extract, a SHIRAYURI extract, a hop extract, A peppermint extract, a Houttuynia extract, a peony extract, a coix seed extract, A lavender extract, an oats extract, a butcher's broom extract, the Al Thea extract, a Hoelen extract, a nettle extract, and oui -- a KYOU extract. A kiwi extract, a cucumber extract, a grape extract, a cactus extract, the Rehmannia Root extract, A field horsetail extract, a cnidium rhizome extract, Mulberry bark extract, a garden thyme extract, A horse chestnut extract, a peach extract, a rose extract, an apricot extract, a corn extract, A ginger extract, a lemon extract, an orange extract, a strawberry extract, a gentian extract, A common mallow extract, a wild ginger extract, a burdock extract, a HAUCHIMAME extract, an algarroba extract, an ivy extract, a pine extract, a cornflower extract, the Sanguisorba officinalis extract, the Ononis spinosa extract, etc. are mentioned. These moisturizers can be used combining its kind or two sorts or more.

[0028] Among the above-mentioned moisturizers, as a desirable thing especially

Hyaluronic acid, chondroitin sulfate, and those derivatives, Collagen, elastin, keratins, those derivatives, and a hydrolysis thing, Grishin, serine, arginine, glutamine, glutamic acid, theanine, Amino acid chosen from proline and pyrrolidone carboxylic acid, and those derivatives, Sorbitol, erythritol, xylitol, xylose, trehalose, Inositol, glucose, mucin, D-bread tenor and its derivative, urea, phospholipid, a seaweed extract, a quince extract, the *Tilia miquelianiana* extract, the Al Thea extract, the Hamah Melis extract, and a coix seed extract are illustrated.

[0029]Although loadings of the above-mentioned medicinal properties used in combination with a tomato pigment are different according to the kind in a skin medicine for external application of this invention, In a range illustrated to the following table 1, the temporal stability of the tablet itself and a tomato pigment in a tablet is not affected, And especially since revelation of more outstanding an active oxygen removing effect, the anti-oxidization effect, the anti-inflammation effect, the ultraviolet-rays prevention effect, the cell \*\*\*\* effect and a moisturizing effect, or antiaging effects is obtained, it is desirable. When using a botanical extract etc. as each arbitrary ingredient with extraction liquid, what is necessary is just the following ranges as a dry solid.

[0030]

[Table 1]

medicinal properties Desirable loadings (%) Especially desirable loadings (%)
Active oxygen removal agent 0.00001-5 0.001-3. Anti- oxidization agent 0.00001-5 0.001 to 3 antiinflammatory agent 0.00001-5 0.001-3 Ultraviolet-rays prevention agent 0.01-30 0.1-20 Cell **** agent 0.0001-5 0.001-3 Moisturizer 0.0001-5 0.001-3.

-----[0031]Especially as an example of the form of a skin medicine for external application, it is not limited but For example, a milky lotion, cream, It can be considered as cosmetics, such as makeup cosmetics, such as skin care cosmetics, such as face toilet, a pack, and a charge of washing, foundation, eye shadow, and mascara, dispersion liquid, ointment, external application liquid medicine, and cream pharmaceuticals, external application medical supplies, etc.

[0032]The ingredient usually used for skin medicines for external application, such as cosmetics and medical supplies, as other arbitrary ingredients according to the form of a skin medicine for external application, For example, water (for example, alkali simple hot spring water, deep sea water, refining water, etc. are included), Lower alcohol, polyhydric alcohol, oil and fats, a low, mineral oil, fatty acid, a granular material, Metal soap, a pH adjuster, a surface-active agent, a thickener, a pigment, a plant, or the extract of animal system materials origin, Vitamins, hormone, sterilization and an antiseptic, a keratolytic drug, enzyme, a pick-me-up, a stabilizer, a metal ion chelating agent, a blood circulation catalyst, a whitening agent, an astringent, an antiseborrheic drug, oil refinement, a deodorizer, spice, etc. can be blended.

[0033]

[Working example]Next, although a reference example, the example of an examination, and an embodiment are given and this invention is explained still in detail, this invention is not restrained at all by these.

[0034]Manufacture of a reference-example 1 tomato pigment: The flesh of the tomato was mashed by the usual state method, it strained, moisture was adjusted except for the

peel, a seed, etc., and the water suspension liquid of the tomato processing concentrate was prepared. Processed this with the grinding-down-by-friction machine, the tissue and the cell of tomato fruit were made to collapse, and the tomato treatment object was obtained. The tissue of tomato fruit and the collapse reaction of the cell were performed adding and agitating plant tissue collapse enzyme PEKUTO lyase on conditions with a temperature of 30 \*\* to this treatment object, and tissue and a cell obtained the completely collapsed tomato treatment object, assuming the sediment of the shape of a paste which is missing from a high-speed centrifuge and contains a part for pulp thickly, and dark red, after heat-treating this treatment object and being deactivated in this addition enzyme -- a lycopene complex -- 15-mg% -- it separated into the fluid portion to contain. Penetration processing of the obtained fluid portion was carried out by the precision filtration membrane, and the tomato pigment containing about 1% of about 300 mg of lycopene complex % and insolubility solid content which has paste-like dark red from the un-penetrating side of a precision filtration membrane was obtained.

[0035]An example [ of an examination ] 1 lipid-peroxide control examination: A lipid peroxidation control examination compared an oxidization induction period using a 679 type Runcie mat apparatus (made by Metrohm). That is, setting to a reaction vessel and heating at 120 \*\*, after mixing a tomato pigment manufactured by the reference example 1 in the castor oil 3g so that it may become 0.1%, air is sent in and a sample is oxidized compulsorily. Decomposition output generated by oxidization was caught underwater and change of an electric conduction rate was measured with an electrode. Dl-alpha-tocopherol of the concentration was used as contrast. The result is shown in Table 2.

[0036]( Result)

[Table 2]

A -----	----- trial A charge A name	An oxidization induction period (time)
-----	tomato pigment (*1) 30.4 dl-alpha-tocopherol (*2) 20.5 -----	

----- thing \*2 manufactured by the \*1 reference example 1 -- the Wako Pure Chem make[0037]A tomato pigment of the reference example 1 showed high lipid peroxide control ability so that clearly from a result of Table 2.

[0038]Embodiment 1 cream: Cream was prepared by the composition and the following process which are shown in Table 3, and the beautiful skin effect and antiaging effects were investigated.

[0039]( Composition)

[Table 3]

成 分 (%)	本 報 明 品							比較品
	1	2	3	4	5	6	7	
(1) ミツロウ	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
(2) セタノール	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
(3) 還元ラノリン	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
(4) スクワラン	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
(5) 脂油型モノステアリン酸グリセリル	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
ポリオキシエチレンソルビ								
(6) タンモノラウレート(20 E.O.)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
(7) トマト色素* 1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	—
(8) オウゴン抽出物* 2	—	5.0	—	—	—	—	—	—
(9) アロエ抽出物* 3	—	—	5.0	—	—	—	—	—
(10) ビタミンEアセテート* 4	—	—	—	0.1	—	—	—	—
(11) 4-メトキシケイ皮酸-2 -エチルヘキシル* 5	—	—	—	—	2.0	—	—	—
(12) ローズマリー抽出物* 6	—	—	—	—	—	5.0	—	—
(13) コンドロイチン硫酸ナトリウム* 7	—	—	—	—	—	—	0.1	—
(14) 防腐剤	適量	適量	適量	適量	適量	適量	適量	適量
(15) 香料	適量	適量	適量	適量	適量	適量	適量	適量
(16) 精製水	残量	残量	残量	残量	残量	残量	残量	残量

\* 1 参考例 1 で製造したもの

\* 2 一丸ファルコス社製

\* 3 丸善製薬社製

\* 4 エーザイ社製

\* 5 日ASF社製

\* 6 丸善製薬社製

\* 7 生化学工業社製

#### [0040]( Process)

- A. Ingredient (1) - (6), (10), (11), and (14) are mixed and heated, and it keeps at 70 \*\*.  
 B. Mix and heat an ingredient (16) and keep at 70 \*\*.

C. Add B to A, and cool after mixing.

D. Ingredient (7) - (9), (12), (13), and (15) were added to C, and cream was obtained.

[0041](Test method) 15 women aged [ per subject cream ] from 28 to 55 were made into a group, and a proper quantity of subject cream was applied to the face after washing its face over 2 times, a morning and night, and 12 weeks every day. The following standards estimated the lustrous skin and antiaging effects by application.

#### [0042](Valuation basis)

inside of Beautiful skin effect:<evaluation> < \*\*> -- an owner -- Effect ; The dullness of

skin stopped being conspicuous.

Slightly effective ; The dullness of skin stopped being not much conspicuous.

Invalid ; with a use front and no change.

[0043]inside of Antiaging-effects;<evaluation> <\*\*> -- an owner -- Effect ; The beam of skin and gloss have been improved.

Slightly effective ; The beam of skin and gloss have been improved a little.

Invalid ; with a use front and no change.

[0044]( Result)

[Table 4]

(人數)

評 値		本 発 明 品							比較品
		1	2	3	4	5	6	7	
美肌 効果	有 効	10	13	13	14	14	14	13	0
	やや有効	4	2	2	1	1	1	2	3
	無 効	1	0	0	0	0	0	0	12
老化 防止 効果	有 効	10	13	13	14	14	14	14	0
	やや有効	3	2	2	1	1	1	1	3
	無 効	2	0	0	0	0	0	0	12

[0045]As shown in the result of Table 4, [ this invention constituent which blended the effect-of-a-medicine agent with the tomato pigment independent and the tomato pigment which are represented by this invention article 1-7 ] By applying \*\*\*\*\* to the skin, it became clear prevention of generating of "dullness" etc. of skin and for the beam of skin and gloss to be improved and to prevent aging of the skin, while being able to improve and considering it as a beautiful skin.

[0046]Embodiment 2 face toilet: Face toilet was prepared by prescription and the following process which are shown below.

(Prescription) (%)

(1) Glycerin 5.0 (2) 1 and 3-butylene glycol . 6.5(3) polyoxy ethylene (20E.O.) sorbitan . 1.2 Mono-laurate ester (4) ethyl alcohol . 5.0(5) 2 - hydroxy 4-methoxybenzophenone -5-sulfuric acid (\*1) 1.0(6) tomato pigment (\*2) 0.001 (7) antiseptic \*\* Quantity (8) spice \*\* Quantity (9) refining water residue \*1 -- Merck Co. make [ ] -- what was manufactured by the \*2 reference example 1[0047]( Process)

A. Carry out the mixed dissolution of the ingredient (3), (7), and (8).

B. Carry out the mixed dissolution of an ingredient (1), (2), (4), (5), (6), and (9).

C. A and B were mixed, it was made uniform and face toilet was obtained.

[0048]Embodiment 3 milky lotion: The milky lotion was prepared by prescription and the following process which are shown below.

(Prescription) (%)

(1) Polyoxy ethylene (10E.O.) sorbitan . 1.0 Monostearate (2) polyoxy ethylene (60E.O.) sorbitan 0.5 Tetra-oleate glyceryl [ (3) ] monostearate 1.0(4) stearic-acid 0.5(5) behenyl alcoholic 0.5 (6) squalane . 8.0 (7) antiseptics \*\* A quantity (8) tomato pigment (\*1). 0.5 (9) dipotassium glycyrrhizinate (\*2). 0.5 (10) hyaluronate sodium (\*3). 0.5 (11)

carboxyvinyl-polymer 0.1 (12) sodium-hydroxide 0.05 (13) ethyl-alcohol 5.0 (14)  
refining water Residue (15) spice Proper quantity Thing \*2 manufactured by \*1 reference  
example 1 \*3 by Maruzen Pharmaceuticals Co., Ltd. Kewpie company make[0049](  
Process)

- A. Carry out heating mixture of an ingredient (9) and (11) - (14), and keep at 70 \*\*.
- B. Ingredient (1) Heating mixture of - (7) is carried out, and it keeps at 70 \*\*.
- C. Add A to B, mix and emulsify uniformly.
- D. (8), (10), and (15) were added after cooling, C was mixed uniformly, and the milky  
lotion was obtained.

[0050]Embodiment 4 cream: Cream was prepared by prescription and the following  
process which are shown below.

(Prescription) (%)

(1) Polyoxy ethylene (40E.O.) monostearate . 2.0 (2) glycerol monostearate (self-  
emulsification type). 5.0(3) stearic-acid 5.0(4) behenyl alcoholic . [ 0.5(5) squalane  
15.0(6) isoctane acid Sept Iles 5.0 (7) antiseptic proper-quantity (8) 1 and 3-butylene  
glycol 5.0 (9) tomato pigment (\*1) 1.0 (10) Spatholobus suberectus Dunn extract (\*2) 1.0  
(11) carrot extract (\*3) ] 1.0 (12) keratin hydrolysis liquid (\*4) 1.0 (13) refining water \*\*  
Quantity (14) spice \*\* quantity [ ] -- thing \*2 manufactured by the \*1 reference example  
1 -- \*3 by Maruzen Pharmaceuticals Co., Ltd. -- Maruzen Pharmaceuticals Co., Ltd.  
make [ ] -- \*4 Narikazu -- transformation -- make[0051]( Process)

- A. Ingredient (1) The heating dissolution of - (7) is carried out at 70 \*\*.
- B. Heat a part of ingredient (8) and (13) at 70 \*\*.
- C. The remainder of ingredient (9) - (12) and (13) and (14) were added having added A to  
B and cooling, and cream was obtained.

[0052]Each of face toilet of Embodiment 2, milky lotions of Embodiment 3, and cream of  
Embodiment 4 is used as a beautiful skin with a beam or gloss while it prevents senility,  
such as inflammation of the skin by lipid peroxide, melanism, a wrinkle, and sagging, by  
applying to the skin.

[0053]Embodiment 5 pack: The pack was prepared by prescription and the following  
process which are shown below.

(Prescription) (%)

(1) polyvinyl alcohol 20.0 (2) ethyl-alcohol 20.0 -- (3) glycerin 5.0 kaolin [ (4) ] 6.0(5)  
tomato pigment (\*1) 2.0(6) camomile extraction liquid (\*2) -- 2.0. [ (7) yeast extract (\*3)  
] 1.0 (8) antiseptics \*\* Quantity (9) spice \*\* Quantity (10) refining water Residue \*3 by a  
thing \*2 A.M.I. company manufactured by the \*1 reference example 1 Made in Nikko  
Chemicals[0054]( Process)

- A. Mix an ingredient (1), (3), (4), and (10), and heat and agitate at 70 \*\*.
- B. Mix the ingredient (2) and (8).
- C. The above-mentioned B was added to previous A, after mixing, it cooled, (5), (6), (7),  
and (9) were distributed uniformly, and the pack was obtained.

[0055]By applying to the skin, the pack of this invention suppresses the inflammation of  
the skin by lipid peroxide, prevents senility, such as melanism, a wrinkle, and sagging,  
and prevents "dullness" of skin and is used as a beautiful skin with a transparent feeling.

[0056]Embodiment 6 facial liquid foundation: Facial liquid foundation was prepared by  
prescription and the following process which are shown below.

(Prescription) (%)

(1) Lanolin 7.0 (2) liquid-paraffin . 5.0 (3) stearic-acid 2.0 (4) SETANORU . 1.0(5)4-methoxycinnamic acid-2-ethylhexyl (\*1) -- 5.0 -- (6) glycerin 5.0 triethanol [ (7) ] amine 1.0(8) carboxymethyl-cellulose 0.7(9) refining water \*\* quantity (10) mica . The 15.0 liquid [ (11) talc 6.0 color-pigment / (12) / 6.0 (13) tomato pigment (\*2) 0.02 (14) creeping-saxifrage extraction ] (\*3) (15) 0.02 spice Proper-quantity \*1 BASF A.G. make Thing \*3 ICHIMARU PHARCOS CO., LTD. make manufactured by the \*2 reference example 1[0057]( Process)

- A. Ingredient (1) - (5) is mixed and heated and it keeps at 70 \*\*.
- B. Add ingredient (10) - (12) to A, and mix uniformly.
- C. Ingredient (6) - (9) is dissolved uniformly and it keeps at 70 \*\*.
- D. Add C to B and emulsify uniformly.
- E. Ingredient (13) - (15) was added for D after cooling, and facial liquid foundation was obtained.

[0058]The facial liquid foundation of this invention prevents senility, such as inflammation of the skin by lipid peroxide, melanism, a wrinkle, and sagging, by applying to the skin.

[0059]Embodiment 7 gel ointment: Gel ointment was prepared by prescription and the following process which are shown below.

(Prescription) (%)

(1) Carboxyvinyl polymer 1.0. (2) Triethanol amine 1.0 (3) ethyl-alcohol . a 20.0(4) tomato pigment (\*1) -- 0.002 (5) mannitol (\*2) (6) 0.5 collagen (\*3) -- 0.5 (7) refining water \*\* quantity [ ] -- thing \*2 manufactured by the \*1 reference example 1 -- \*3 by a sigma company -- Koken CO., LTD. make[0060]( Process)

- A. An ingredient (1) and (3) The mixed dissolution of - (7) is carried out.
- B. The ingredient (2) was added to A, and it mixed, and was made uniform, and gel ointment was obtained.

[0061]The gel ointment of this invention is used as a beautiful skin with a beam or gloss while it prevents senility, such as inflammation of the skin by lipid peroxide, melanism, a wrinkle, and sagging, by applying to the skin.

[0062]

[Effect of the Invention]Like the above, the skin medicine for external application containing the tomato pigment of this invention has very high improvement and preventive effect to antiaging phenomena, such as generation of the lipid peroxide within the skin surface and the skin and inflammation of skin, melanism, a wrinkle, and sagging. In cosmetics or Medical Science Division, it is very useful.

with -- Top

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[Translation done.]